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6th ANNUAL REPORT

OF THE

Commissioners on Inland Fisheries

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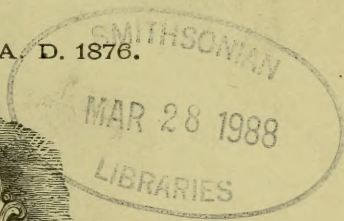
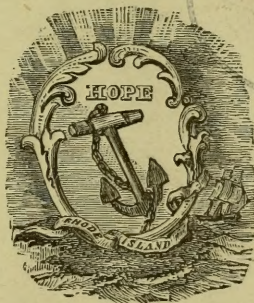
GENERAL ASSEMBLY

OF THE

STATE OF RHODE ISLAND,

AT ITS

January Session A. D. 1876.



PROVIDENCE:

PROVIDENCE PRESS COMPANY, PRINTERS TO THE STATE.

1876.



*State of Rhode Island and Providence Plantations.*

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ANNUAL REPORT

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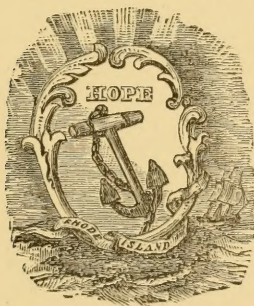
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OF THE

STATE OF RHODE ISLAND,

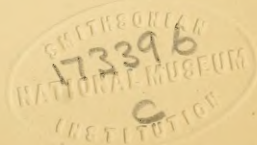
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## REPORT.

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*To the Honorable General Assembly of the State of Rhode Island, &c.,  
at its January Session, 1876:*

The Commissioners of Inland Fisheries submit their sixth annual report.

### STATE HATCHING ESTABLISHMENT.

In our hatching house and appurtenances, we have no noted improvements to record, as these were already very satisfactory and adequate for our purpose.

Mr. William Colwell has just entered upon his third year at the hatching establishment, and in him we still find an efficient Superintendent.

*Salmon.* In October we received through Professor Baird 100,000 California Salmon ova, but owing to their protracted transportation, they arrived in a very unpromising condition, and about one-third of them proved to be worthless.

The 65,000 that we were successful in hatching, were distributed as follows: 20,000 in the Pawcatuck river; 10,000 in the Slatersville branch of the Blackstone, and the remainder in the Pawtuxet and its tributaries.

We also received 200,000 Salmon ova from Mr. C. G. Atkins, Superintendent of the Penobscot Salmon Enterprise, at Bucksport, Maine.

In hatching these we still had ill luck, for they were too far advanced when shipped, but we hatched 125,000 from the lot. 15,000 were placed in the Slatersville branch of the Blackstone, and 110,000 in the Pawtuxet, at various points along the south branch, from Pontiac village, in Warwick, to the new reservoir in Coventry, and in the north branch, com-

mencing at River Point in Warwick, and extending through Coventry and Scituate to Hopkins' Mills, in Foster. In this distribution of salmon we were very successful, not in one instance losing a single fish.

This is the fourth year that our three principal streams have been stocked with salmon. It is our intention to continue it this coming year, as the cost will be small, and then await developments. Every one knows that for the salmon to attain its maximum of size and weight it must have access after the second year of its life, to salt water. To obtain this we must have fishways over all the dams in our streams.

The Commissioners of this State have, in their previous reports, placed this fact before the people, and are gratified to be able to state that as far as they have been in communication with dam owners, they have been met, almost always, with a most liberal and encouraging spirit on their part, but it seemed well to the Commissioners to first ascertain if our streams, as far as temperature, impurities, etc., were in a proper state to support salmon, before any strong action was taken toward the erection of fishways.

If these young salmon which we have placed in the Blackstone, the Pawtuxet and the Pawcatuck each year, for the past four years, have, after the proper time has elapsed, say two years, forced their way down stream, as they no doubt can do, and found their way to the sea, it begins to be time that they should return and endeavor to find their way back; at the Blackstone, the falls at Pawtucket, at a good stage of water will probably be surmounted, but the next dam the stream above will stop them. We may therefore hope to hear from them in the stream up to that point.

On the Pawtuxet the conditions are more favorable. We have a fishway over the dam at the mouth of that river, and moreover, the under part of the dam has been allowed to get out of repair since the destruction of the mill at that point by fire, and nothing prevents salmon from passing up this stream as far as Pontiac, therefore we may hope to hear from them up to that point.

On the Pawcatuck, the dam at Westerly will stop them, and could they pass that they could probably force their way some distance up the stream, as the dams are low.

Now if they have not gone out of the streams, but have remained between the dams where they have originally been placed, and increased to a limited extent in size, we should also begin to hear from them, and in several instances we have, but not to any great extent, and we, as before said, shall this coming year use our utmost endeavors to ascertain how they have thriven.

If they appear in numbers at the mouths of the rivers and are there



stopped by obstructions from entering them, it will then be an unanswerable argument in favor of fishways ; if they are found in abundance between the dams, and are apparently only waiting a chance for exit, it will be another ; but if we can find no sufficient number to warrant the large expenditure that fishways would cost, over the very numerous, in some cases, high dams, on our streams, then we shall congratulate ourselves that we have not advocated what might turn out a useless expenditure of money.

Mr. Theodore Lyman, one of the Massachusetts Commissioners, says, in his last report, that during his late tour in Europe, he visited many streams, formerly noted resorts for salmon, where they had become almost, if not entirely extinct, but were now once more prolific, under a judicious system of re-stocking.

These streams, he says, are as badly off as most of our New England rivers are, in impurities and obstructions.

This encourages us to hope for the best, and in any event the Commissioners feel that in success or failure in salmon, we trust the public will admit we have acted wisely and in moderation.

We have negotiated at a small expense for a supply of land-locked salmon spawn, and as we have several ponds suited for them, we think the experiment of their introduction here worth trying.

*Shad.* The Pawtuxet, Pawcatuck, Warren and Barrington rivers and their tributaries were the principal streams stocked with shad the past year.

We failed to place any in Blackstone river in consequence of the lateness of the season when the hatching operations were commenced at Hadley Falls, where we expected to obtain our supply.

Shad had been placed in Warren river two years before, and in Barrington one, with very encouraging results.

Our success in shad has been excellent, as shown during the past season in the ample supply of our markets with fish from our own streams, and in quantities to nearly equal the large demand.

In Warren and Bristol shad were so plenty that first rate fish sold for ten cents apiece, and we are informed by residents of these places that the number of shad this year greatly exceeded that for the past twenty-five years. Large numbers were caught in Greenwich bay and in the Pawtuxet and Pawcatuck rivers, and various other places along our bay.

We feel under great obligations this year, as in years past, to the Massachusetts and Connecticut Commissioners, and to Professor Baird, United States Commissioner, and Deputy Commissioner Milner (under whose immediate care shad hatching has been carried on for the past two years at Hadley Falls), for their gratuitous supplies of shad from which

we have obtained such gratifying results. Large numbers of full grown shad were caught at Pontiac, below the dam, this past year.

*Trout.* Learning from our past experience in this department, the delicate organization of this species of fish and its peculiar wants and requirements, we have deemed it inexpedient to attempt anything in this direction the past year.

We find no trouble to hatch the fish and none in preserving them, until the season becomes warm and dry, then our supply of water is apt to fail and the young fish die.

They require pure water, and will not do well in a temperature above sixty-five degrees, unless there is a fall or swift current, and as the temperature of spring water is much less variable than river water, it is very essential that the former be employed.

Owing to the variableness of the quantity of water moving from our springs we have been unable thus far to find a suitable place in the vicinity of our hatching house, for the location of a trout pond with good prospect of success.

Frequently our opinion is asked in relation to this branch of fish culture. We reply, trout can be raised and made to pay in Rhode Island, if we can provide a regular flow of pure spring water through the severe drouth to which we are subject during the summer months; the flow must be sufficient to change the whole volume of water in the pond or ponds, at least once in twelve hours, and eight hours is better.

We copy from the report of the Massachusetts Commissioners the following, which will be of value to any one in our State contemplating the raising of trout:

“There is an easier, more natural and perhaps more profitable way of raising trout, which has not been tried by many of the growers; its simplicity and cheapness bring it within easy control of any one owning in whole or in part a trout stream in which is any considerable fall.

At the foot of the dam, where the owner's right terminates, should be constructed a dam sufficient to insure a depth of not less than six feet of water and the overflow carefully screened; above this a number of small dams should be made, the distance between them being determined by the fall of the stream, not being so near as to flow back on each other, but far enough apart to allow a portion of the stream to remain unchanged, nor should they be so high as to materially change the temperature of the water; small fishways or shutes should be built over these dams to enable the fish to pass and repass around the dams right and left, trenches should be made for the purpose of raising young fish and conducting the overflow in times of freshets. The trenches for the young should be gated so as to give at all times an overflow of water.

It is desirable that the water flowing over the dams should be broken and ærated as much as possible; at the head of one of the trenches may be built a



small hatching house or wooden troughs, and covers could be used instead of the house.

The south side of the ponds and the stream, if it is open to the rays of the sun, should be planted with willows, and portions of the stream covered with plank for the fish to hide under."

The Commissioners, last summer, placed a few young trout in a small spring-fed artificial pond in Roger Williams Park. It is worth the while of those interested to visit this pond and see the wonderful growth of these fish under the fostering care of the park superintendent. When put in, there were none of them over three inches in length; in eight months they have grown to a length of six to eight inches, which goes to prove what may be done with good care in suitable and not over-crowded waters.

*Black Bass.* The most satisfactory reports come to us from the majority of the ponds stocked with the black bass. Over one thousand were taken with hook and line from Pascoag pond in Burrillville the past season, with an average weight of  $2\frac{3}{4}$  pounds; the largest we have authentic record of, lacked two ounces of being a five-pounder.

From Mr H. T. Root, of Providence, we have the following communication:

PROVIDENCE, January 27th, 1876.

ALFRED A. REED, JR.:

SIR:—Mr. William H. McCormick states that you wish a memorandum of the number of black bass that we have caught in the stocked ponds. As near as my memory serves me we have caught:—

In Moswansicut.....	336	in 14 trials.
Herring.....	72	" 3 "
Wallum....	180	" 2 "
Wauchog.....	12	" 1 "
Sneach.....	6	" 1 "

Permit me to add that the stocked ponds contain large numbers of small bass. In some they are accumulating much faster than others.

I consider the result of your labors remarkable, in view of the fact that none of the ponds are screened at the outlets, and that the old bass are very apt to go down and out of them as soon as they get through spawning.

Very truly yours,

H. T. Root.

We have numerous other authentic attests of the presence of this most capital fish, now to be regarded as thoroughly at home in our waters, and increasing every year, and our legislature is to be congratulated for their wisdom and liberality in making the appropriations that have enabled us to place this capital fish, both for sport and table use, within the reach of all.

*Report on Inland Fisheries.*

We would remark here that the allusion that Mr. Root makes as to none of the ponds being screened and the fish liable to leave them, is exactly what we want for the good of the State, for the black bass has a happy faculty of pushing his way to every accessible water and stocking it with his species.

Such results are very gratifying to the Commissioners, showing that their labors have not been in vain, and if, as is doubtless the case, ill luck has rewarded the efforts of some of our good people in their efforts to capture the black bass, they must lay their lack of success, not to the absence of the fish, but to their want of knowledge of how to capture him, which will come in good time, by experience.

We append a list of the ponds thus far stocked, with date :

## 1870, JUNE AND JULY.

Wauchog Pond.....	in Charlestown.
Moswansicut.....	in Scituate.
Sneach.....	in Cumberland.
Herring.....	in Burrillville.

## 1871, JUNE AND JULY.

Steere.....	in Scituate.
Hope.....	in Scituate.
Ponegansett Co.....	in Scituate.
Searle's.....	in Foster.
Spear's.....	in Foster.
Scott's.....	in Lonsdale.
New Reservoir.....	in Lonsdale.
Warwick.....	in Warwick.
Gorton.....	in Warwick.

## 1872, JUNE AND JULY.

Stafford.....	in Tiverton.
Easton's.....	in Newport and Middletown.

## 1873, JUNE AND JULY.

Yawgoo.....	in South Kingstown.
Worden's.....	in South Kingstown.
Bellville.....	in North Kingstown.
Johnson's.....	in Coventry.
Wickabonet.....	in West Greenwich.
Deep.....	in Exeter.
Yawgook.....	in Hopkinton.
Eaton's.....	in Newport.
Two Ponds.....	on Block Island.

Most of these fish were two years old and upwards.

## 1874.

Blue pond.....	in Hopkinton.
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## CONCLUSION.

During the time we have been interested in fish culture we have visited numerous piscatorial establishments in different States, and have found only two that could be called a complete success,—Seth Greene's at Caledonia, Livingston county, New York, and the one at Bloomsburg, New Jersey, then under the supervision of Dr. Slack, since deceased.

At neither of these places do they lose any fish during the trying summer months. This success is attributable to the inexhaustible supply of pure water during the entire year. Any one contemplating fish culture we would advise to visit these model establishments and there witness fish culture in its success.

The Commissioners have had their attention called to a plan for the improvement of the fisheries in the inland waters as follows :

It is proposed that all ponds, reservoirs, etc., in the State be divided into three classes. Certain ponds in each county, one-third of them as near as may be, be set apart for fishing in each year. The first year, one-third of these ponds are allowed to be fished, all the others are closed ; the second year another third are to be opened for fishing, all others closed ; the third, the remaining third are to be fished, the rest closed. This plan, it is claimed, gives two years' rest to each and every pond in the State, and the friends of the measure claim that the gain will be found in the increase of fish in the ponds so let alone for two years. The parties urging this are practical men and have the best interests of the inland fisheries at heart. The Commissioners have only to say in the matter, that in case such a law seems proper it becomes absolutely necessary for the State to appoint an officer or fish warden, *with salary*, whose duty it shall be to see that these several close-times on the various ponds (numbering some one hundred and forty) shall be strictly observed, and farther that in all cases it is better for all waters, that the larger growth of fish be removed each year, for nothing is so destructive to young fish as what may be termed the overgrown ones, say in the pickerel tribe, from three to five pounds, and in bass and trout about the same.

We are glad to report a constantly increasing interest by the people at large in our labors, and a disposition on the part of the community to observe all laws made for the benefit of the fisheries, and at the request of the "State Association for the Protection of Game and Fish," (a society recently formed, now numbering some one hundred members, and constantly increasing, and destined to work much good we are sure, in the community) the following amendments to Chapters 282 and 495 of the General Statutes are recommended :



**AN ACT in amendment of Chapter 282 of the General Statutes.**

**SECTION 1.** Section 3 of Chapter 282 is hereby amended so that it shall read as follows: After the expiration of said three years, no black bass shall be taken in any waters of this State, from the first day of March to the fifteenth day of July, and only by hook and line as aforesaid.

**AN ACT in amendment of Chapter 495 of the General Statutes, the same being in amendment of Chapter 134 of the General Statutes, "On certain fisheries."**

**SECTION 1.** Section 1 of Chapter 495 is hereby amended so that it shall read as follows: Every person who shall take any trout between the first day of September and the first day of January in each year, shall forfeit twenty dollars.

In regard to the first amendment proposed, it has been found that a good many bass have been taken in June and early in July with spawn in them, and so it is deemed best to add six weeks to the close-time.

We close our report for the year with a statement of our cash account and respectfully suggest that the sum of one thousand dollars be appropriated for the expenses of the year 1876.

ALFRED A. REED, JR.,	}	Commissioners on Inland Fisheries.
JOHN H. BARDEN,		
NEWTON DEXTER,		

# Report on Inland Fisheries.

11

*State of Rhode Island, in account with Commissioners on Inland Fisheries.*

## DR.

1876.	To amount paid for labor.....	\$375 97
	“ “ traveling expenses.....	78 26
	“ “ rent of land for fish houses.....	13 00
	“ “ printing and posting notices at various ponds, rivers, etc., stocked with fish.....	56 04
	“ “ stationery.....	50
	“ “ expenses on trout to Providence.....	5 00
	“ “ expenses on salmon spawn from Maine....	31 96
	Expense putting salmon in Pawtuxet river.....	12 00
	“ “ “ Pawcatuck river.....	5 00
	“ “ “ New reservoir.....	4 00
	“ “ “ Pawcatuck south bend of Moswan- sicut and Slatersville branch rivers.....	30 00
	Expense on young shad from Holyoke.....	25 17
	“ on shad spawn from Holyoke.....	73 49
	“ salmon spawn from California.....	104 10
	“ putting salmon in Johnson pond, south branch, Paw- tuxet and Moswansicut pond.....	22 74
	Amount paid for printing reports by State Auditor.....	12 00
	Subscription to Penobscot Salmon Enterprise.....	300 00
		<hr/>
		\$1,149 23
	Balance carried forward.....	460 11
		<hr/>
		\$1,609 34

## CR.

1875.		
Feb. 1.	By balance on hand.....	\$609 34
	Amount of appropriation for the year 1875... ..	1,000 00
		<hr/>
		\$1,609 34
1876.		
Feb. 29.	By balance brought forward.....	\$460 11

PROVIDENCE, February 29th, 1876.







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